

5618

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VHF POWER PENTODE

MINIATURE TYPE

GENERAL DATA

Electrical:

Filament, Coated:

Filament Arrangement	*Series**	*Parallel***	
Voltage.	6.0 ± 10%	3.0 ± 10%	ac or dc volts
Current.	0.23	0.46	. . . . . amp

Direct Interelectrode Capacitances:°

Grid No.1 to Plate . . .	0.24	μμf
Input.	7.0	μμf
Output	5.0	μμf

° With no external shield.

Mechanical:

Mounting Position.	Vertical, or Horizontal with pins No.1 & No.5 in a horizontal plane
Maximum Overall Length	2-5/8"
Maximum Seated Length.	2-3/8"
Length from Base Seat to Bulb Top (excluding tip). .	2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin
Basing Designation for BOTTOM VIEW	7CU

Pin 1 - Filament (-)
Pin 2 - Plate
Pin 3 - Grid No.2
Pin 4 - Grid No.3, Int. Shield
Pin 5 - Filament Mid-Tap
Pin 6 - Grid No.1
Pin 7 - Filament (+)

AF POWER AMPLIFIER & MODULATOR—Class A_1

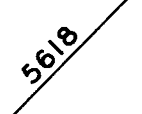
Maximum ICAS●● Ratings, ***Absolute Values*:**

DC PLATE VOLTAGE	300 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE.	125 max.	volts
GRID-No.2 INPUT.	2 max.	watts
PLATE DISSIPATION.	5 max.	watts

Typical Operation:

Filament Arrangement	*Series**	*Parallel***	
DC Plate Voltage	250	250	volts
DC Grid-No.3 Voltage	0*	0**	volts
DC Grid-No.2 Voltage	75	75	volts
DC Grid-No.1 (Control-Grid) Voltage■ . .	-8	-8	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage. . .	8	8	volts

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Zero-Signal DC Plate Current . .	16	19	ma
Max.-Signal DC Plate Current . .	17.5	20.5	ma
Zero-Signal DC Grid-No.2 Current	1.5	2.0	ma
Max.-Signal DC Grid-No.2 Current	3.5	4.5	ma
Transconductance	3500	3600	μmhos
Effective Load Resistance (plate to plate). . .	12000	12000	ohms
Total Harmonic Distortion. . . .	10	10	%
Max.-Signal Power Output	1.2	1.4	watts

Circuit Values:

Grid-No.1-Circuit Resistance	5000 min.	ohms
	100000 max.	ohms

RF POWER AMPLIFIER & OSCILLATOR—Class C Telegraphy□□
and
RF POWER AMPLIFIER—Class C FM Telephony

Maximum ICAS●● Ratings, ***Absolute Values:***

DC PLATE VOLTAGE	300 max.	volts
DC GRID-No.2 (SCREEN) VOLTAGE.	125 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE. . . .	-125 max.	volts
DC PLATE CURRENT	30 max.	ma
DC GRID-No.1 CURRENT	3 max.	ma
PLATE INPUT.	7.5 max.	watts
GRID-No.2 INPUT.	2 max.	watts
PLATE DISSIPATION.	5 max.	watts

Typical Operation:⊕

	Up to 40 Mc	*At 80 Mc*	
DC Plate Voltage	300	300	volts
DC Grid-No.3 Voltage⊕	0	0	volts
DC Grid-No.2 Voltage□	75	75	volts
	32000	32000	ohms
DC Grid-No.1 Voltage■■ ⊕	-45	-45	volts
	30000	30000	ohms
	1400	1400	ohms
Peak RF Grid-No.1 Voltage. . . .	65	65	volts
DC Plate Current	25	25	ma
DC Grid-No.2 Current	7	7	ma
DC Grid-No.1 Current (Approx.) .	1.5	1.5	ma
Driving Power (Approx.).	0.2	0.3	watt
Power Output (Approx.) ♦ . . .	5.4	5.2	watts

Circuit Values:

Grid-No.1-Circuit Resistance	5000 min.	ohms
	100000 max.	ohms

♦ Useful power output is approximately 5.0 watts for 40 Mc and 4.5 watts for 80 Mc.

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TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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VHF POWER PENTODE

FREQUENCY MULTIPLIER

Maximum ICAS●● Ratings, *Absolute Values*:

DC PLATE VOLTAGE	300 max.	volts
DC GRID-No. 2 (SCREEN) VOLTAGE.	125 max.	volts
DC GRID-No. 1 (CONTROL-GRID) VOLTAGE. . . .	-125 max.	volts
DC PLATE CURRENT	30 max.	ma
DC GRID-No. 1 CURRENT	3 max.	ma
PLATE INPUT.	7.5 max.	watts
GRID-No. 2 INPUT.	2 max.	watts
PLATE DISSIPATION.	5 max.	watts

Typical Operation:⊕

	Doubler to 80 Mc	*Tripler to 80 Mc*	
DC Plate Voltage	300	300	volts
DC Grid-No. 3 Voltage⊕	0	0	volts
DC Grid-No. 2 Voltage□.	75	75	volts
	41000	41000	ohms
DC Grid-No. 1 Voltage♦	-125	-125	volts
	68000	68000	ohms
Peak RF Grid-No. 1 Voltage. . . .	160	160	volts
DC Plate Current	25	25	ma
DC Grid-No. 2 Current	5.5	5.5	ma
DC Grid-No. 1 Current (Approx.) .	1.85	1.85	ma
Driving Power (Approx.).	0.75	0.75	watt
Power Output (Approx.)♦♦ . . .	4.2	3.4	watts

Circuit Values:

Grid-No. 1-Circuit Resistance	5000 min.	ohms
	100000 max.	ohms

♦♦ Useful power output is approximately 3.5 watts for doubler service and 2.7 watts for tripler operation.

* For series filament arrangement, filament voltage is applied between pins No. 1 and No. 7. The grid-No. 1 voltage is referred to pin No. 1, and grid-No. 3 (pin No. 4) is connected to pin No. 1.

** For parallel filament arrangement, filament voltage is applied between pin No. 5 and pins No. 1 and No. 7 connected together. The grid-No. 1 voltage is referred to pin No. 5 and grid No. 3 (pin No. 4) is connected to pin No. 5.

●● Intermittent Commercial and Amateur Service.

■ For dc filament supply.

■■ Obtained from a fixed supply or by a grid-No. 1 resistor (30000) or cathode resistor (1400).

□ Obtained from a separate source, or from the plate voltage supply with a voltage divider. Series screen resistor of value shown should be used only where the 5618 is employed as a buffer amplifier and is not keyed.

□□ Key-down conditions per tube without amplitude modulation. Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

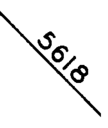
⊕ Filament may be connected in either parallel or series arrangement. With parallel connection, grid No. 3 (pin No. 4) is connected to pin No. 5; for series operation, connect pin No. 4 to pin No. 1.

♦ Obtained from a fixed supply, or by a grid-No. 1 resistor of value shown.

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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AVERAGE CHARACTERISTICS

E_f = 6.0 VOLTS DC
GRID-№2 VOLTS = 75

GRID-№1 (I_{C_1}) MILLIAMPERES
30 20 10 0

PLATE VOLTS
0 100 200 300 400 500 600

GRID-№1 VOLTS E_{C_1} = 5
−10
−15
0
+5
+10
E_{C_1} = +15
+20
+25
+30
I_b
I_{C_2}
I_{C_1}
E_{C_1} = −20
−30
−10
E_{C_1} = +10
+20

250 225 200 175 150 125 100 75 50 25 0

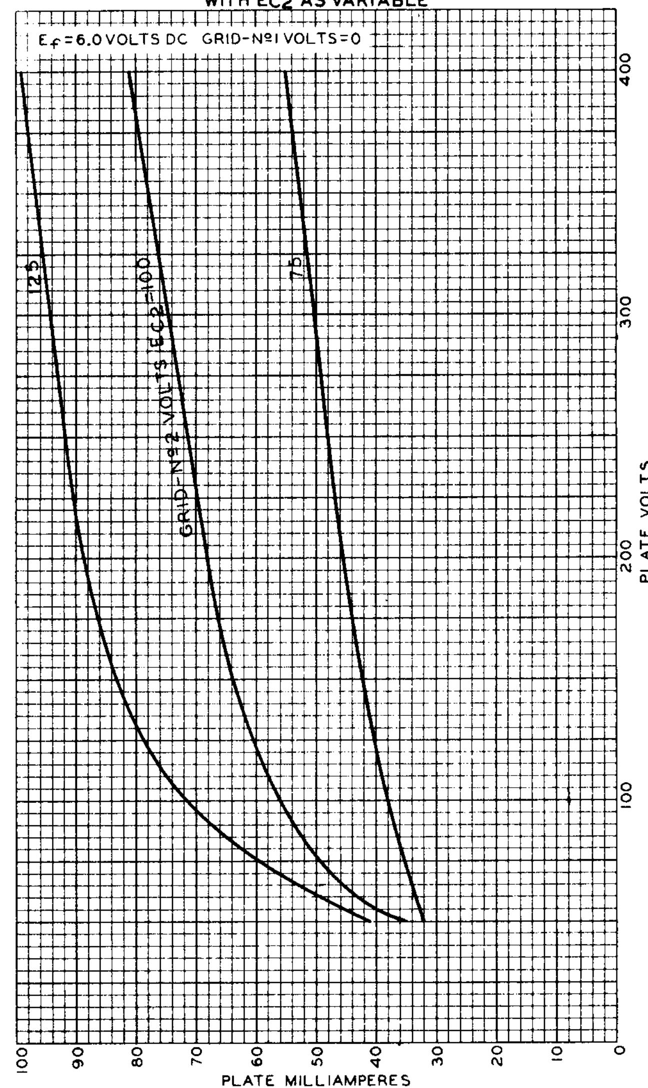
PLATE (I_b) OR GRID-№2 (I_{C_2}) MILLIAMPERES

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RCA

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AVERAGE PLATE CHARACTERISTICS
WITH E_{C2} AS VARIABLE



AUG. 12, 1947

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6882